FIG. 1

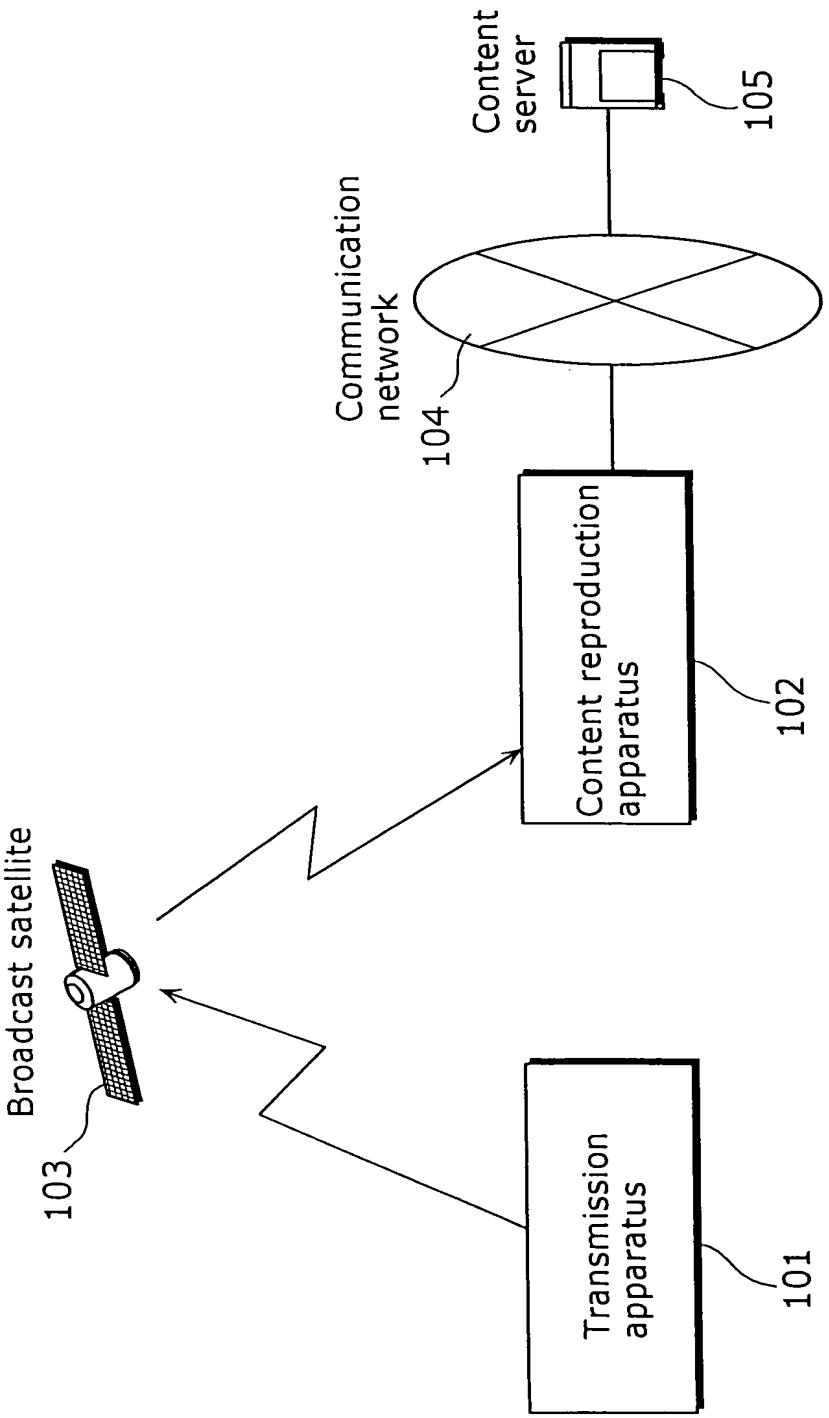
Content server
105
Communication network
104
Content reproduction apparatus
102
Broadcast satellite
103
Transmission apparatus
101

FIG. 2

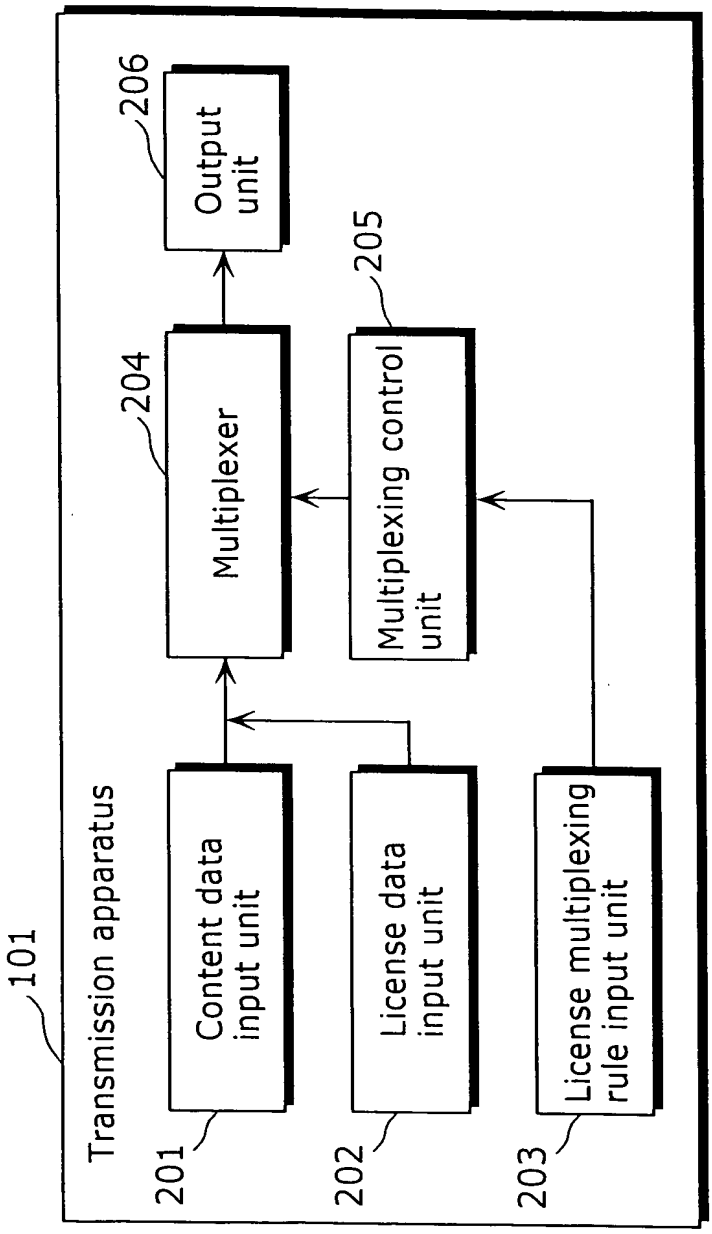
101
Transmission apparatus
201
Content data input unit
202
License data input unit
203
License multiplexing rule input unit
204
Multiplexer
205
Multiplexing control unit
206
Output unit

FIG. 3

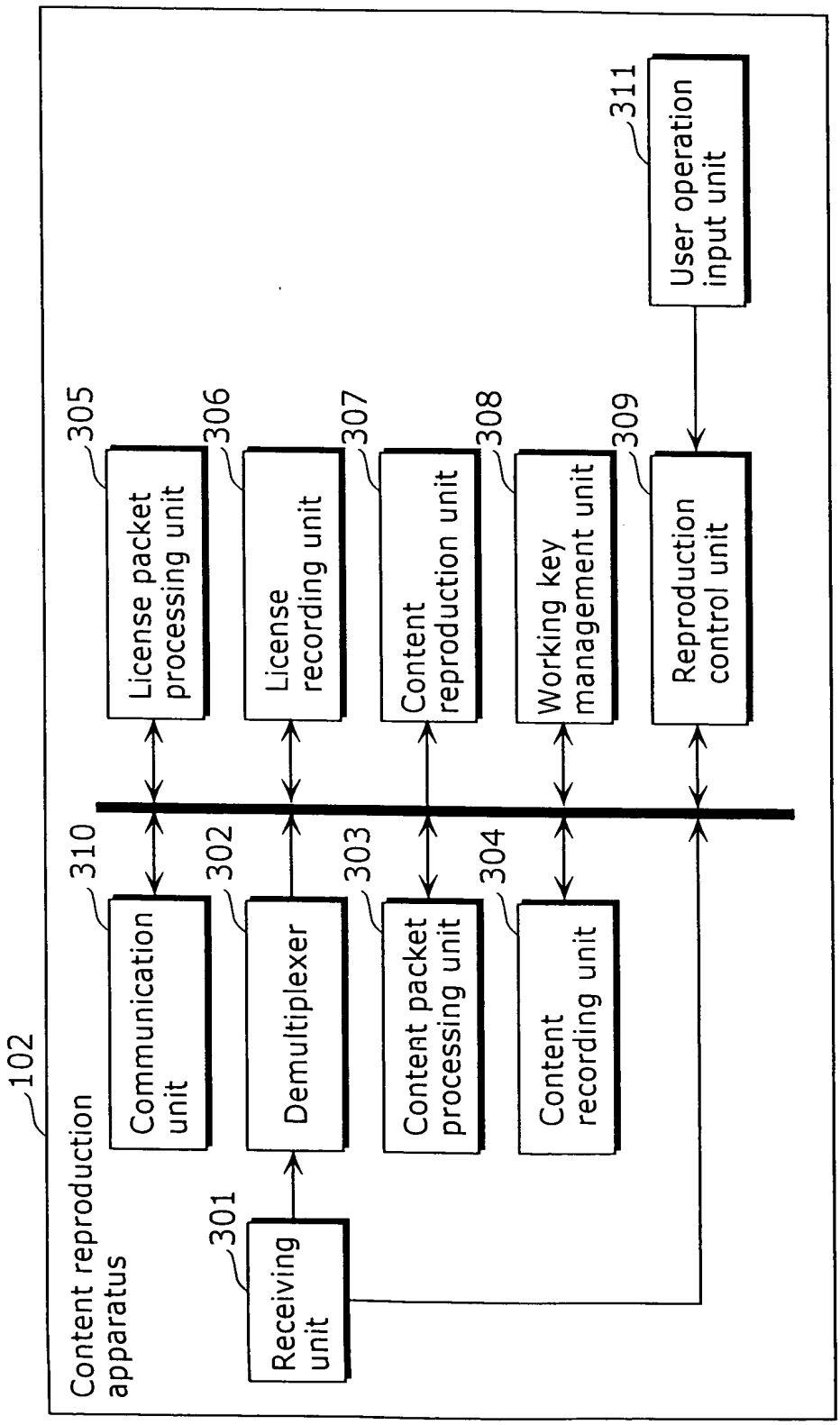
102
Content reproduction apparatus
Communication unit
310
Demultiplexer
302
Content packet processing unit
303
Content recording unit
304
Receiving unit
301
License packet processing unit
305
License recording unit
306
Content reproduction unit
307
Working key management unit
308
Reproduction control unit
309
User operation input unit
311

FIG. 4

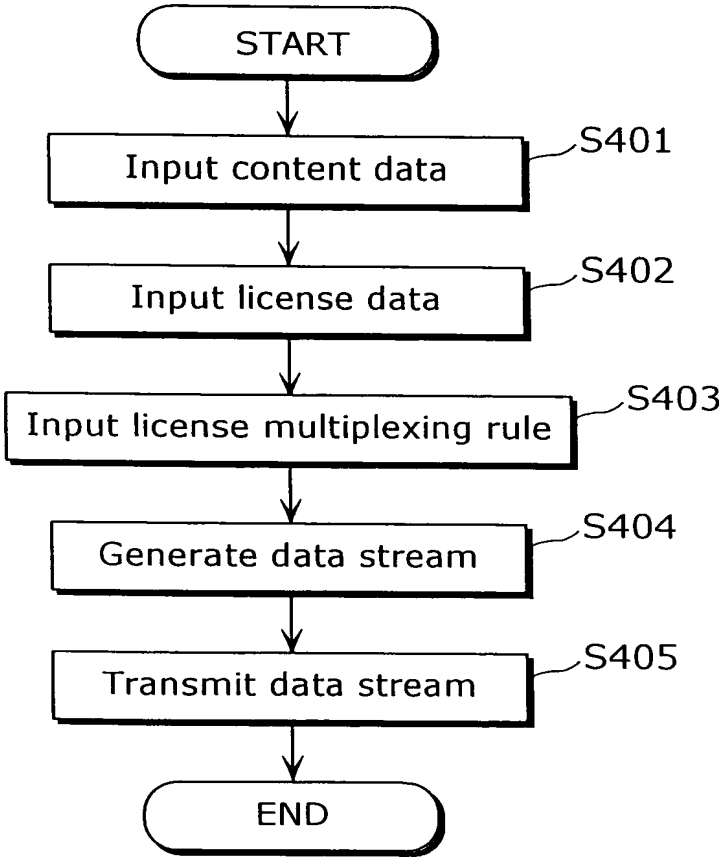
START
Input content data
S401
Input license data
S402
Input license multiplexing rule
S403
Generate data stream
S404
Transmit data stream
S405
END

FIG. 5

License ID	Linked content ID	Content obtainment information	Content key (128bit)	Usage rule
0x1001	0xAAAA	ftp://xxx.xxx.xxx/content/0xAAAA.mpg	0xFF..FF	Effective period (2003/12/01～ 2003/12/31)
0x1002	0xBBBB	Scheduled streaming content Channel identifier:0x01 Broadcast period:(2003/12/02 10:00:00 ～2003/12/02 10:59:59)	0xEE..EE	Permitted number of reproductions 10times

FIG. 6

License ID	License erasing flag	Distribution start time	Distribution end time
0x1001	TRUE	2003/12/02 9:00:00	2003/12/02 9:29:59
0x1002	TRUE	2003/12/02 9:30:00	2003/12/02 9:59:59

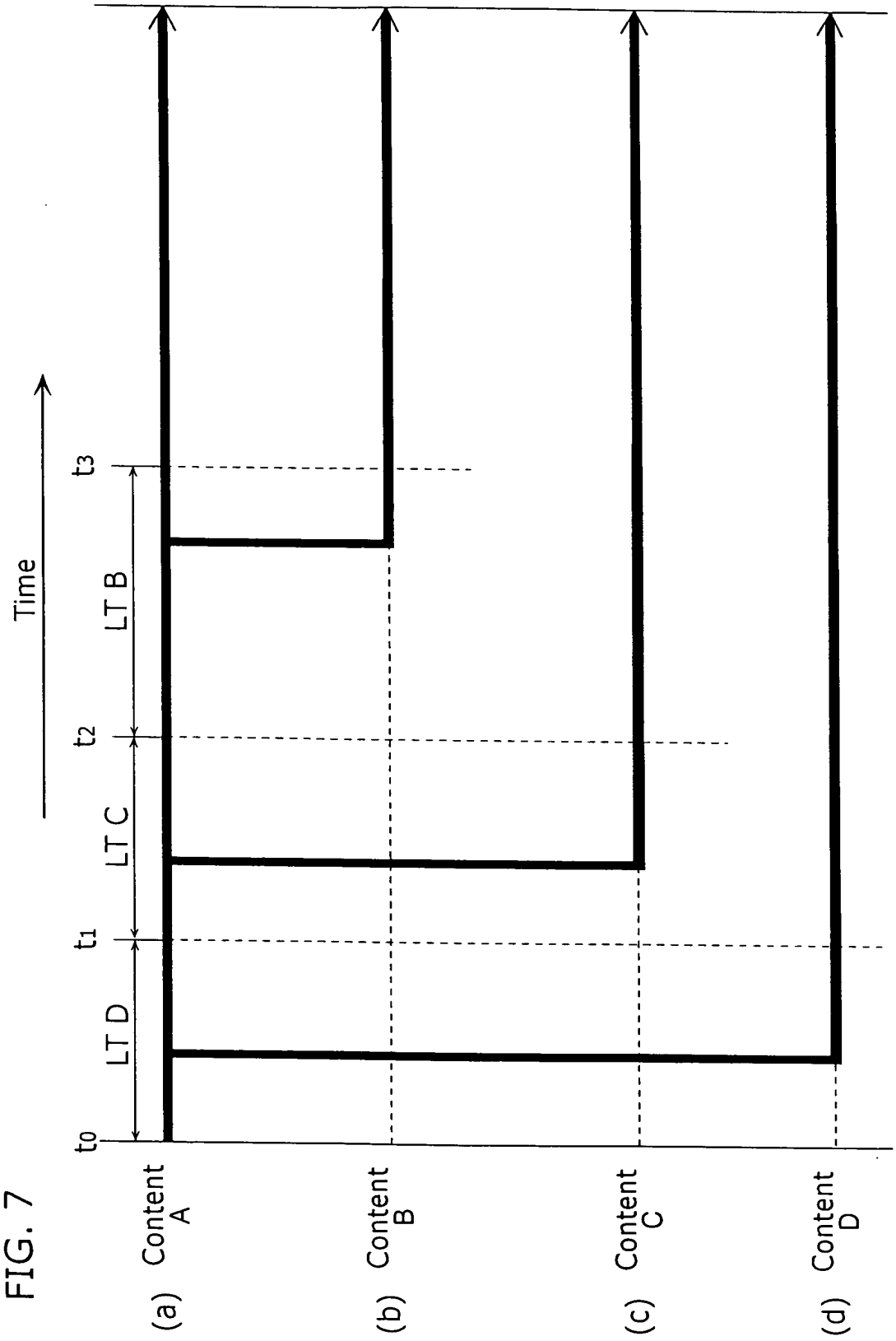
Time
t0
t1
t2
t3
LT D
LT C
LT B
(a) Content A
(b) Content B
(c) Content C
(d) Content D

FIG. 7

FIG. 8

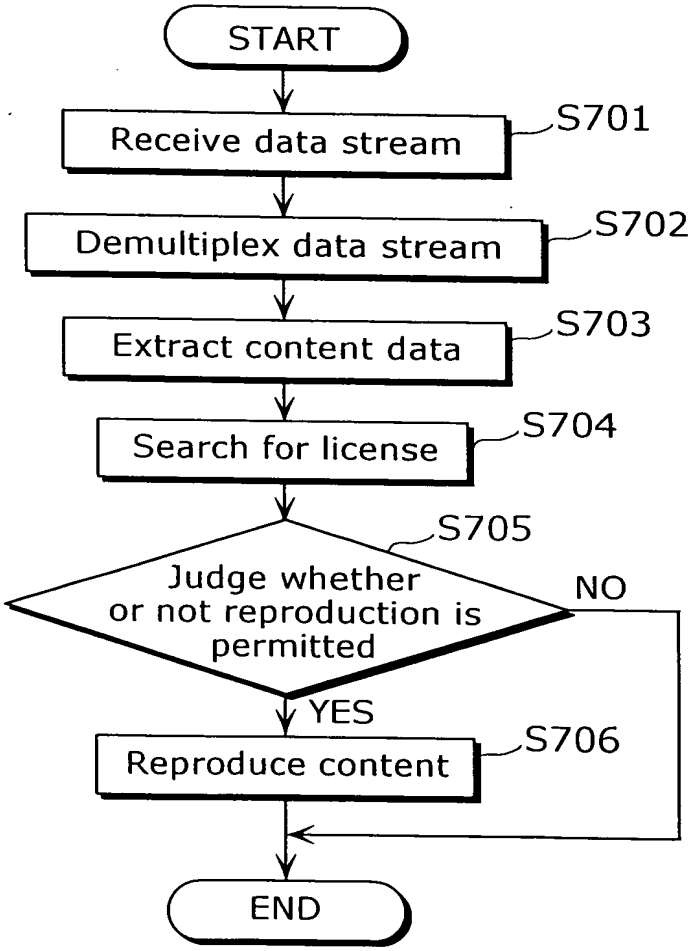
START
Receive data stream
S701
Demultiplex data stream
S702
Extract content data
S703
Search for license
S704
S705
Judge whether or not reproduction is permitted
NO
YES
Reproduce content
S706
END

FIG. 9

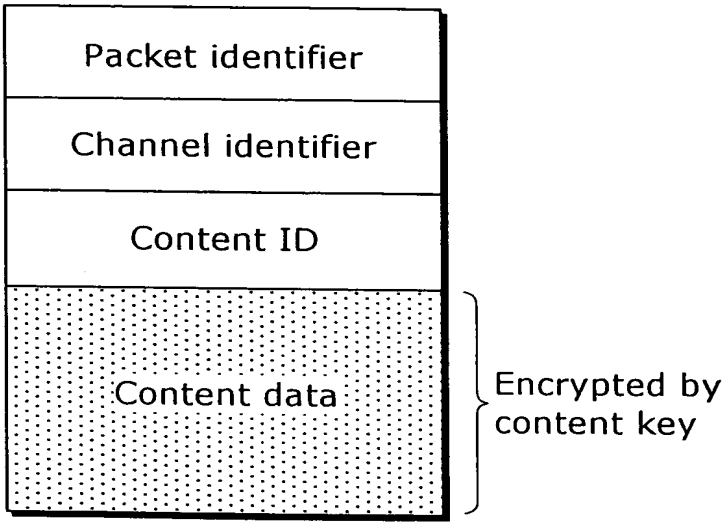
Packet identifier
Channel identifier
Content ID
Content data
Encrypted by content key

FIG. 10

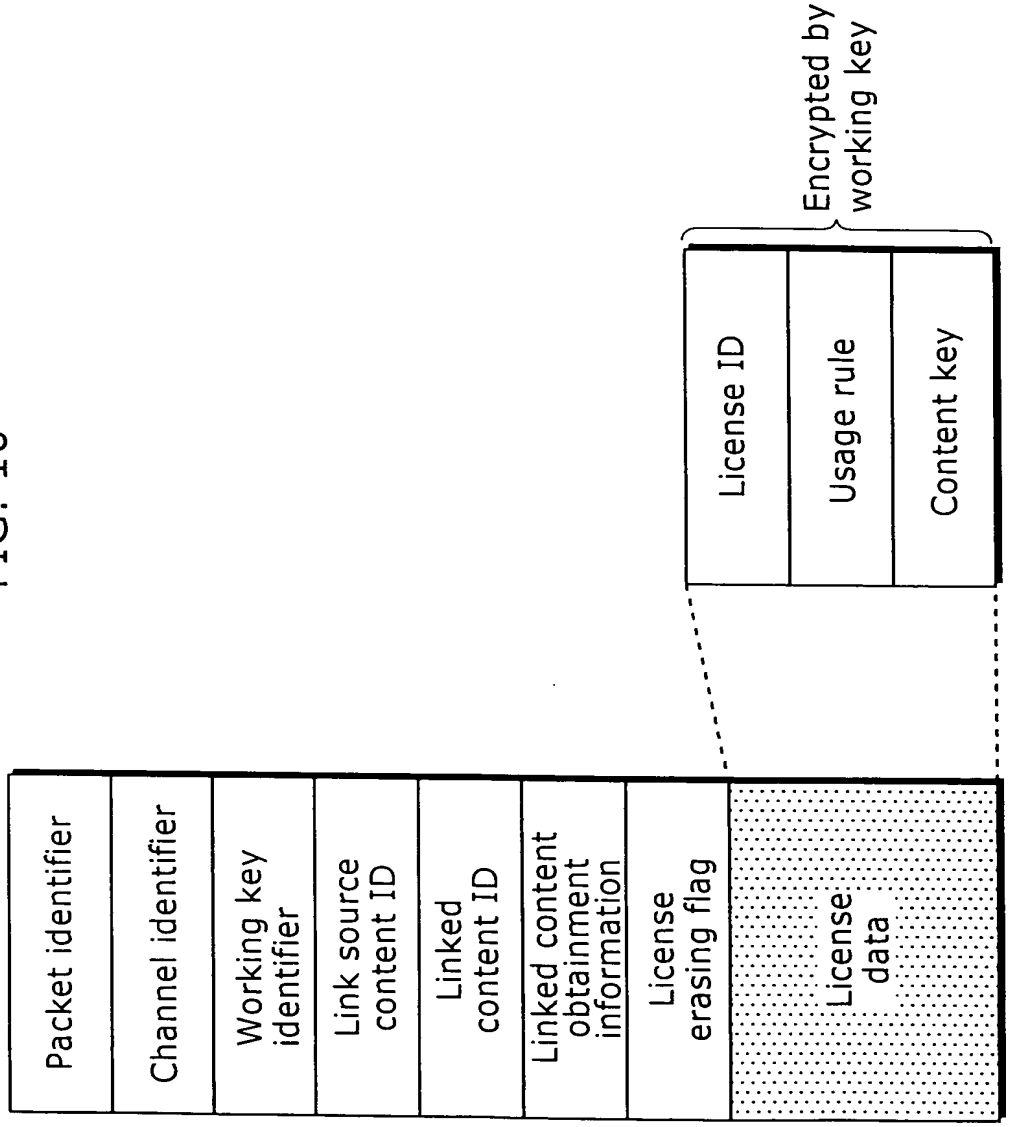
Packet identifier
Channel identifier
Working key identifier
Link source content ID
Linked content ID
Linked content obtainment information
License erasing flag
License data
Encrypted by working key
License ID
Usage rule
Content key

FIG. 11

Use-permitted content ID	Link source content ID	License ID	Content obtainment information	Usage rule	Content key (128bit)
0xAAAA	0x1111	0x1001	ftp://xxx.xxx.xxx/content/0xAAAA.mpg	Effective period (2003/12/01～ 2003/12/31)	0xFF..FF
0xBBBB	0x2222	0x2002	Scheduled streaming content Channel identifier:0x01 Distribution period:(2003/12/24 13:00:00 ～2003/12/24 15:00:00)	—	0xAA..AA

FIG. 12

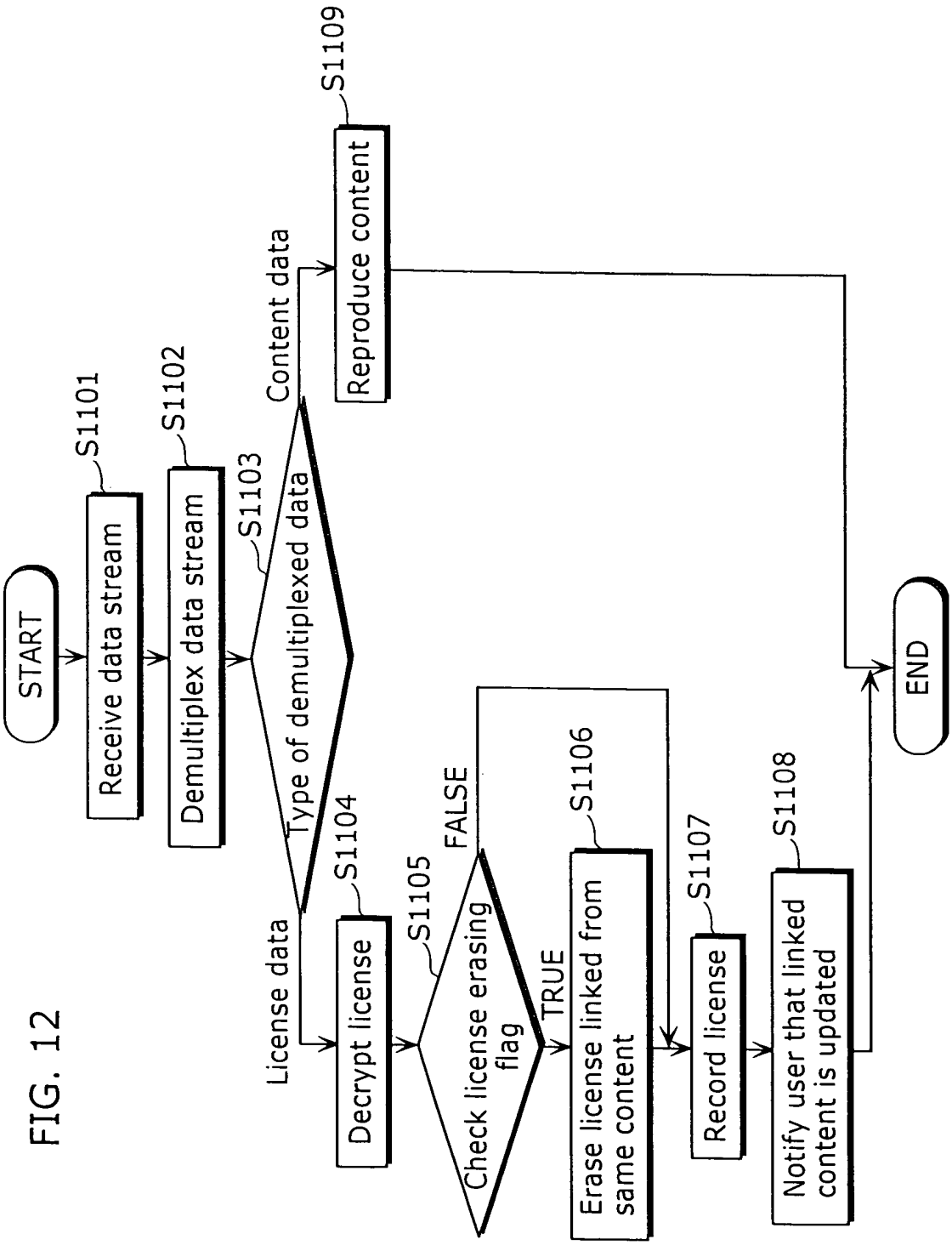
START
Receive data stream
S1101
Demultiplex data stream
S1102
Type of demultiplexed data
S1103
Content data
Reproduce content
S1109
License data
Decrypt license
S1104
Check license erasing flag
S1105
FALSE
TRUE
Erase license linked from same content
S1106
Record license
S1107
Notify user that linked content is updated
S1108
END

FIG. 13

Working key ID	Working key (128bit)
0x1234	0x1111..1111
0x5678	0x2222..2222

FIG. 14

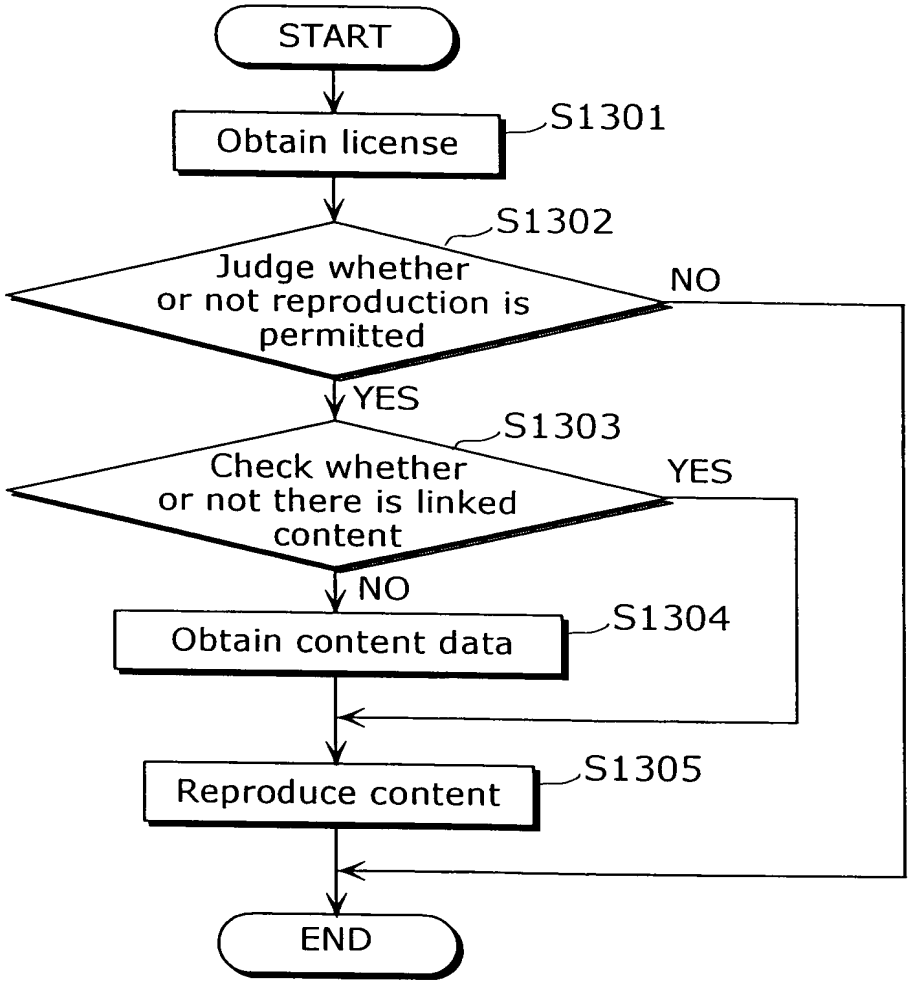
START
Obtain license
S1301
S1302
Judge whether or not reproduction is permitted
NO
YES
S1303
Check whether or not there is linked content
YES
NO
Obtain content data
S1304
Reproduce content
S1305
END

FIG. 15

Content ID	Content data
0xAAAA	(Content data of content ID =0xAAAA)
0xZZZZ	(Content data of content ID =0xZZZZ)

FIG. 16

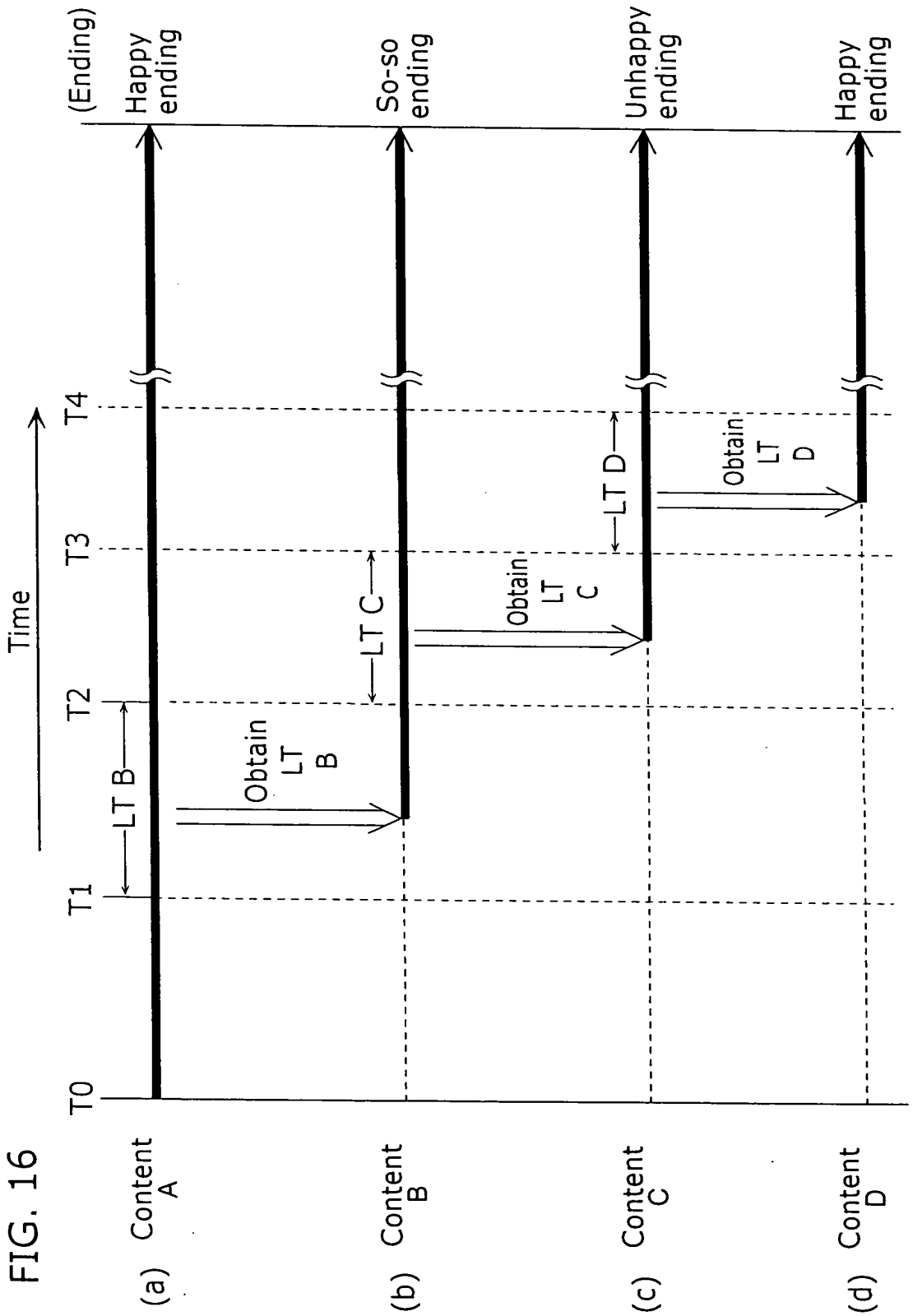
(Ending)
Happy ending
So-so ending
Unhappy ending
Happy ending
Time
T0
T1
T2
T3
T4
LT B
LT C
LT D
Obtain LT B
Obtain LT C
Obtain LT D
(a) Content A
(b) Content B
(c) Content C
(d) Content D

FIG. 17A

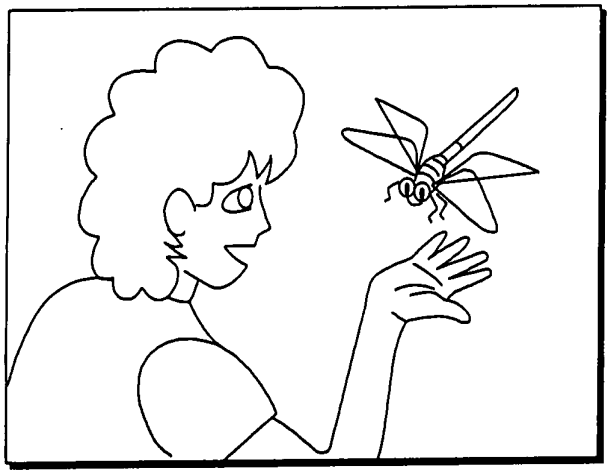

FIG. 17A

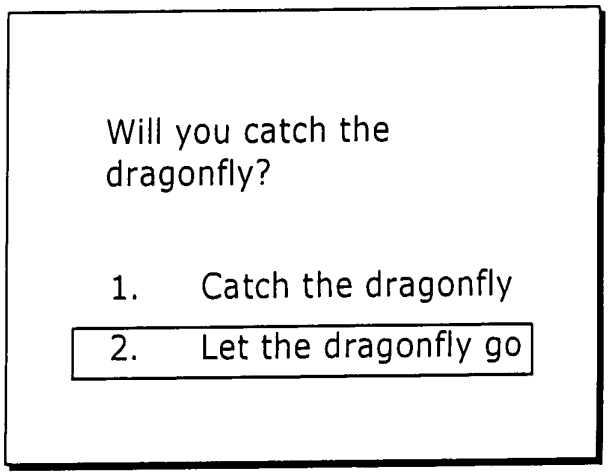

FIG. 17C

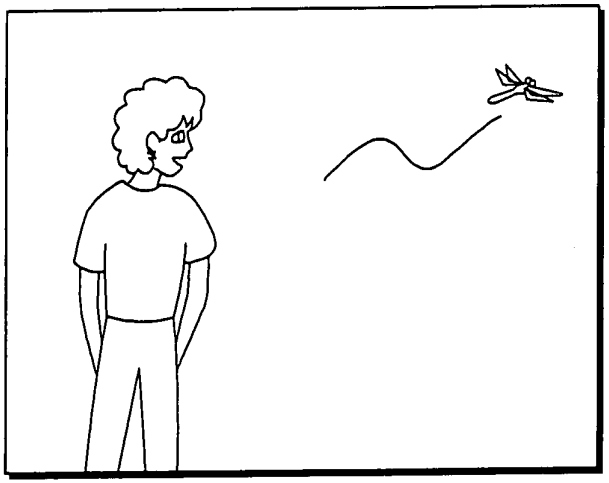

FIG. 17D

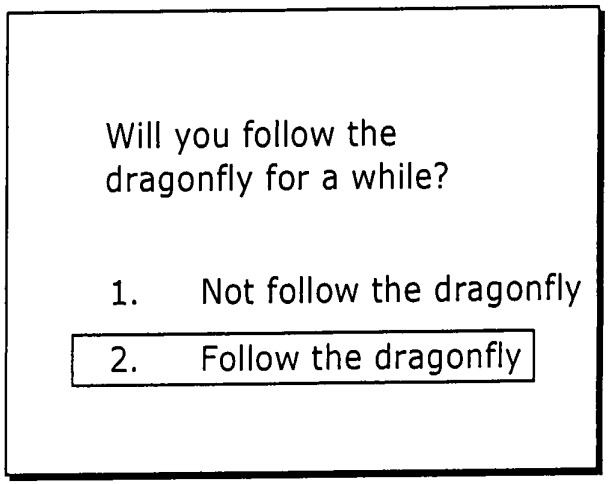

FIG. 18A

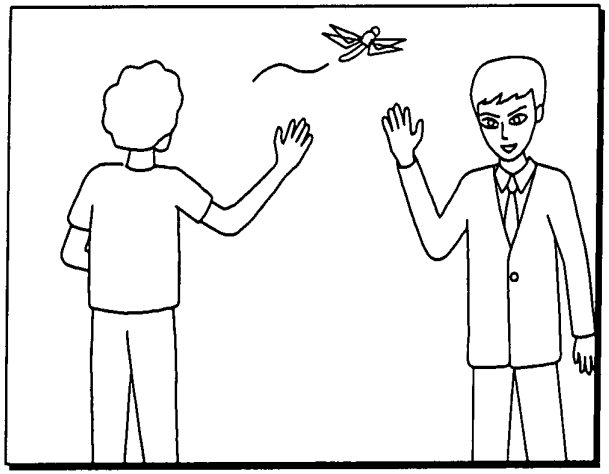

FIG. 18A

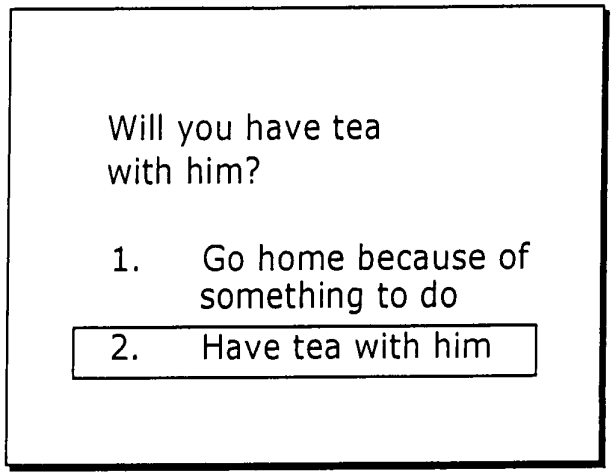

FIG. 18C

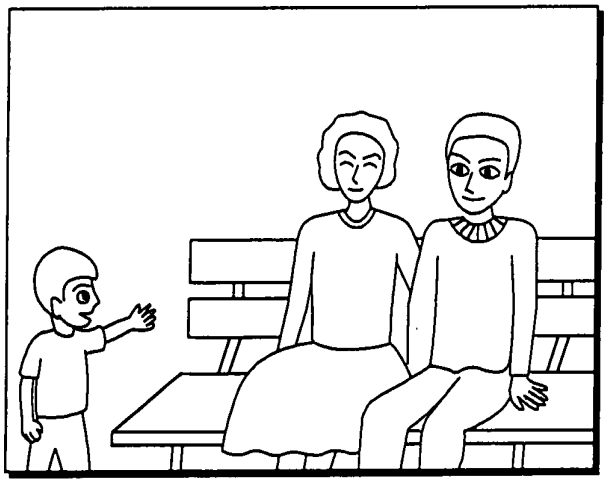
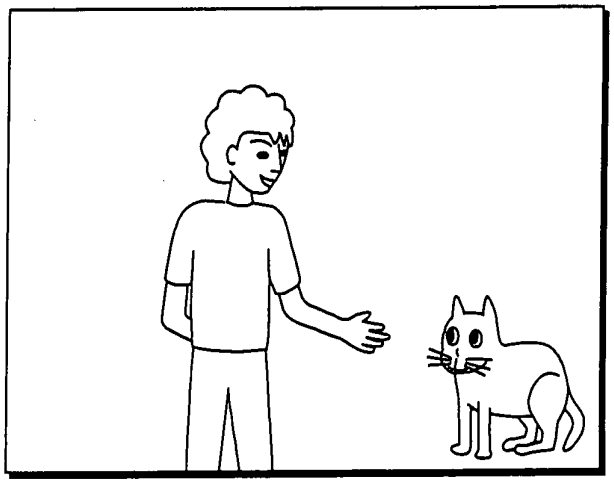
FIG. 18D